

IN THE CLAIMS:

Claims 1-11 have been amended herein. New claims 12-15 have been added. All claims currently pending in the referenced application are shown below. This listing of the claims will replace all prior versions and listings of the claims in the application. Please enter these claims as amended.

Listing of the Claims:

1. (Currently amended) A method for extracting water from an aqueous solution of a protein, the method comprising the steps of:

(a) ~~intermixing the aqueous solution of the protein with a sufficient quantity of at least one glycol ether at a temperature at least 30 between 10 centigrade degrees above the lower critical solution temperature (LCST) and 30 centigrade degrees above the LCST, to form a suspension comprising a concentrated aqueous protein phase and a liquid organic phase comprising said at least one glycol ether and at least 10 percent water extracted from the aqueous solution of the protein, wherein the glycol ether has an inverse solubility in water, with the proviso that the solubility of the glycol ether in water is significantly less than the solubility of water in the glycol ether, and the glycol ether does not significantly deactivate the protein;~~ and

(b) ~~separating the concentrated aqueous protein phase formed in step (a) from at least a portion of the liquid organic phase,~~

wherein the glycol ether has an inverse solubility in water, and the solubility of the glycol ether in water is at most 90% of the solubility of water in the glycol ether at the temperature at which the intermixing is performed, and
wherein the protein in the separated concentrated aqueous protein phase is not significantly deactivated.

2. (Currently amended) The method according to ~~Claim 1~~ claim 1, wherein the glycol ether has the formula:



wherein R' is an alkyl group of 1 to 8 carbon atoms[[:]], wherein R'' is, independently in each occurrence, hydrogen, methyl or ethyl[[:]], wherein R''' is selected from the group consisting of hydrogen, an alkyl group having from 1 to 4 carbon atoms, a propionyl- or group, and an acetyl group[[:]] and wherein n is an integer between 1 and 4; and wherein the glycol ether has an inverse solubility in water, with the proviso that the solubility of the glycol ether in water is significantly less than the solubility of water in the glycol ether, is capable of transporting at least 10 percent water into the organic layer, and does not deactivate or degrade the protein.

3. (Currently amended) The method according to ~~Claim~~ claim 1, wherein the intermixing of the glycol ether with the aqueous solution of the protein ~~in step (a)~~ is conducted at a temperature ~~of from about -5°C. to about 70°C~~ between about -5 °C and about 70 °C.

4. (Currently amended) The method according to ~~Claim~~ claim 1, wherein, ~~in step (b), a portion of the liquid organic phase is allowed to remain with the separated concentrated aqueous protein phase~~ comprises a portion of the liquid organic phase in an amount from about 1 to about 30 percent by weight.

5. (Currently amended) The method according to ~~Claim~~ claim 1, wherein, ~~in step (b),~~ substantially all of the liquid organic phase is separated from the concentrated aqueous protein phase.

6. (Currently amended) The method according to ~~Claim~~ claim 1, the method further comprising ~~the steps of: (e):~~

heating the liquid organic phase ~~obtained in step (b)~~ to a temperature ~~which~~ that is higher than the temperature ~~in step (a) at which the intermixing is performed~~, to form a suspension comprising an aqueous phase and a glycol ether phase~~[[,]]~~; and

~~(d) separating the glycol ether phase formed in step (e) from the aqueous phase.~~

7. (Currently amended) The method according to ~~Claim~~ claim 6, wherein ~~in step (e) the liquid organic phase is heated at a temperature of from about 40°C. to about 100°C~~ between about 40 °C and about 100 °C.

8. (Currently amended) The method according to ~~Claim~~ claim 1, wherein the concentrated aqueous protein phase ~~obtained in step (b) is further~~ is contacted with a hydrophobic organic solvent.

9. (Currently amended) The method according to ~~Claim~~ claim 6, wherein the aqueous phase ~~obtained in step (d) is further~~ is contacted with a hydrophobic organic solvent.

10. (Currently amended) The method according to ~~Claim~~ claim 1, wherein the protein is an enzyme or a therapeutic protein.

11. (Currently amended) The method according to ~~Claim~~ claim 2, wherein the glycol ether is selected from the group consisting of tripropylene glycol ethyl ether, propylene glycol isopropyl ether, dipropylene glycol isopropyl ether, dipropylene glycol dimethyl ether, tripropylene glycol n-propyl ether, tripropylene glycol isopropyl ether, propylene glycol n-propyl ether, dipropylene glycol n-propyl ether, propylene glycol t-butyl ether, dipropylene glycol t-butyl ether, tripropylene glycol t-butyl ether, propylene glycol n-butyl ether, dipropylene glycol n-butyl ether, tripropylene glycol n-butyl ether, propylene glycol n-pentyl ether, propylene glycol n-hexyl ether, butylene glycol methyl ether, dibutylene glycol methyl ether, butylene glycol ethyl ether and, dibutylene glycol ethyl ether, ethylene glycol n-butyl ether, ethylene glycol n-pentyl ether, ethylene glycol n-hexyl ether, ethylene glycol n-heptyl ether, ethylene glycol 2-ethylhexyl ether, diethylene glycol n-pentyl ether, diethylene glycol n-hexyl ether, diethylene glycol n-heptyl ether, triethylene glycol n-hexyl ether, ethylene glycol n-butyl ether acetate, propylene glycol isobutyl ether, dipropylene glycol isobutyl ether, tripropylene glycol isobutyl ether, ethylene glycol t-butyl ether, ethylene glycol isobutyl ether, ethylene glycol isobutyl ether acetate, and diethylene glycol n-butyl ether acetate, and blends thereof.

12. (New) The method according to claim 11, wherein the glycol ether is selected from the group consisting of propylene glycol n-propyl ether, dipropylene glycol n-propyl ether, dipropylene glycol dimethyl ether, tripropylene glycol n-propyl ether, and ethylene glycol n-butyl ether.

13. (New) The method according to claim 1, wherein the concentrated aqueous protein phase is separated from at least a portion of the liquid organic phase by decantation or centrifugation.

14. (New) The method according to claim 1, the method further comprising recovering the glycol ether.

15. (New) The method according to claim 1, wherein the protein is a temperature-sensitive protein.